NSW RURAL FIRE SERVICE

Department of Planning and Environment (Sydney Offices)
GPO Box 39
Sydney NSW 2001

Your reference: SSD-15001460
Our reference: DA20210302000811-EIS & DA Exhibition-1

ATTENTION: Navdeep Shergill

Date: Tuesday 14 September 2021

Dear Sir/Madam,

Development Application
State Significant – EIS & DA Exhibition – Educational Establishment
2 College Street Richmond NSW 2753, 2//DP1051798

I refer to your correspondence regarding the above proposal which was received by the NSW Rural Fire Service on 18/08/2021.

The NSW RFS has reviewed the documentation provided in relation to the proposed State Significant Development for the construction of a new Hawkesbury Centre of Excellence in agricultural education within the existing Western Sydney University (WSU Hawkesbury Campus) site, and provides the following conditions:

Asset Protection Zones
The intent of measures is *to provide suitable building design, construction and sufficient space to ensure that radiant heat levels do not exceed critical limits for firefighters and other emergency services personnel undertaking operations, including supporting or evacuating occupants*. To achieve this, the following conditions shall apply:

1. From the start of building works, the property around the proposed Building Blocks A, B, C, D, E and F must be managed as an inner protection area (IPA) for a distance of 50 metres in accordance with the requirements of Appendix 4 of *Planning for Bush Fire Protection 2019*. When establishing and maintaining an IPA the following requirements apply:

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2 metres above the ground;
- tree canopies should be separated by 2 to 5 metres;
- preference should be given to smooth barked and evergreen trees;
- large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover;
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.

Postal address
NSW Rural Fire Service
Locked Bag 17
GRANVILLE NSW 2142

Street address
NSW Rural Fire Service
4 Murray Rose Ave
SYDNEY OLYMPIC PARK NSW 2127

T (02) 8741 5555
F (02) 8741 5550
www.rfs.nsw.gov.au

- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

2. From the start of building works, the property around the proposed Building Blocks G and H must be managed as an inner protection area (IPA) for a distance of minimum 10 metres in accordance with the requirements of Appendix 4 of *Planning for Bush Fire Protection 2019*. When establishing and maintaining an IPA the following requirements apply:

- tree canopy cover should be less than 15% at maturity;
- trees at maturity should not touch or overhang the building;
- lower limbs should be removed up to a height of 2 metres above the ground;
- tree canopies should be separated by 2 to 5 metres;
- preference should be given to smooth barked and evergreen trees;
- large discontinuities or gaps in vegetation should be provided to slow down or break the progress of fire towards buildings;
- shrubs should not be located under trees;
- shrubs should not form more than 10% ground cover;
- clumps of shrubs should be separated from exposed windows and doors by a distance of at least twice the height of the vegetation.
- grass should be kept mown (as a guide grass should be kept to no more than 100mm in height); and
- leaves and vegetation debris should be removed.

Construction Standards

The intent of measures is *to provide suitable building design, construction and sufficient space to ensure that radiant heat levels do not exceed critical limits for firefighters and other emergency services personnel undertaking operations, including supporting or evacuating occupants.* To achieve this, the following conditions shall apply:

3. The proposed Building Blocks A, B, C, D, E and F must provide ember protection by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any sub floor areas, openable windows, vents, weepholes and eaves. External doors are to be fitted with draft excluders.

4. The proposed Building Blocks G and H must be constructed entirely of non-combustible materials and provide ember protection. This must be achieved by enclosing all openings (excluding roof tile spaces) or covering openings with a non-corrosive metal screen mesh with a maximum aperture of 2mm. Where applicable, this includes any sub floor areas, openable windows, vents, weepholes and eaves. External doors are to be fitted with draft excluders.

Access - Public Roads

The intent of measures is to provide safe operational access to structures and water supply for emergency services, while residents are seeking to evacuate from an area. To achieve this, the following conditions shall apply:

5. Proposed access to parking lots adjacent to Building Blocks A and F must comply with the general requirements of Table 5.3b of *Planning for Bush Fire Protection 2019* and the following:

- are two-way sealed roads with minimum 8 metre carriageway width kerb to kerb;
- a minimum vertical clearance of 4 metre to any overhanging obstructions, including tree branches, is provided.
- parking is provided outside of the carriageway width;
- curves of roads have a minimum inner radius of 6 metre;
- the maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- the road crossfall does not exceed 3 degrees;
- traffic management devices are constructed to not prohibit access by emergency services vehicles;
- dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle, and are clearly sign posted as a dead end;

- the capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles; bridges/causeways are to clearly indicate load rating;
- hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression; and
- hydrants are provided in accordance with the relevant clauses of *AS 2419.1:2005 - Fire hydrant installations System design, installation and commissioning*.

6. Proposed service road for access to agricultural/animal plots must comply with the general requirements of Table 5.3b of *Planning for Bush Fire Protection 2019* and the following:

- minimum 5.5 metre carriageway width kerb to kerb;
- a minimum vertical clearance of 4 metre to any overhanging obstructions, including tree branches, is provided.
- parking is provided outside of the carriageway width;
- curves of roads have a minimum inner radius of 6 metre;
- the maximum grade road is 15 degrees and average grade of not more than 10 degrees;
- the road crossfall does not exceed 3 degrees;
- traffic management devices are constructed to not prohibit access by emergency services vehicles;
- dead end roads are not recommended, but if unavoidable, are not more than 200 metres in length, incorporate a minimum 12 metres outer radius turning circle or turning heads compliant with A3.3. Vehicle turning head requirements, and are clearly sign posted as a dead end;
- the capacity of perimeter and non-perimeter road surfaces and any bridges/causeways is sufficient to carry fully loaded firefighting vehicles; bridges/causeways are to clearly indicate load rating;
- hydrants are located outside of parking reserves and road carriageways to ensure accessibility to reticulated water for fire suppression; and
- hydrants are provided in accordance with the relevant clauses of *AS 2419.1:2005 - Fire hydrant installations System design, installation and commissioning*.

Water and Utility Services

The intent of measures is to provide adequate services of water for the protection of buildings during and after the passage of a bush fire, and to locate gas and electricity so as not to contribute to the risk of fire to a building. To achieve this, the following conditions shall apply:

7. The provision of water, electricity and gas must comply with the following in accordance with Table 6.8c of *Planning for Bush Fire Protection 2019*:

- reticulated water is to be provided to the development where available;
- reticulated water supply to urban subdivisions uses a ring main system for areas with perimeter roads;
- all above-ground water service pipes are metal, including and up to any taps;
- where practicable, electrical transmission lines are underground;
- where overhead, electrical transmission lines are proposed as follows:
- (a) lines are installed with short pole spacing (30 metres), unless crossing gullies, gorges or riparian areas; and
- (b) no part of a tree is closer to a power line than the distance set out in accordance with the specifications in ISSC*3 Guideline for Managing Vegetation Near Power Lines*.
- reticulated or bottled gas is installed and maintained in accordance with *AS/NZS 1596:2014* and the requirements of relevant authorities, and metal piping is used;
- all fixed gas cylinders are kept clear of all flammable materials to a distance of 10 metres and shielded on the hazard side;
- connections to and from gas cylinders are metal; polymer-sheathed flexible gas supply lines are not used; and
- above-ground gas service pipes are metal, including and up to any outlets.

Landscaping

The intent of measures is for landscaping. To achieve this, the following conditions shall apply:

8. Landscaping within the required asset protection zone must comply with Appendix 4 of *Planning for Bush Fire Protection 2019*. In this regard, the following principles are to be incorporated:

- A minimum 1 metre wide area, suitable for pedestrian traffic, must be provided around the immediate curtilage of the building;
- Planting is limited in the immediate vicinity of the building;
- Planting does not provide a continuous canopy to the building (i.e. trees or shrubs are isolated or located in small clusters);
- Landscape species are chosen to ensure tree canopy cover is less than 15% (IPA), and less than 30% (OPA) at maturity and trees do no touch or overhang buildings;
- Avoid species with rough fibrous bark, or which retain/shed bark in long strips or retain dead material in their canopies;
- Use smooth bark species of trees species which generally do not carry a fire up the bark into the crown;
- Avoid planting of deciduous species that may increase fuel at surface/ ground level (i.e. leaf litter);
- Avoid climbing species to walls and pergolas;
- Locate combustible materials such as woodchips/mulch, flammable fuel stores away from the building;
- Locate combustible structures such as garden sheds, pergolas and materials such as timber garden furniture away from the building; and
- Low flammability vegetation species are used.

Emergency and Evacuation

The intent of measures is to provide suitable emergency and evacuation arrangements for occupants of SFPP developments. To achieve this, the following conditions shall apply:

9. Bush Fire Emergency Management and Evacuation Plan is prepared consistent with the:

- The NSW RFS document: *A Guide to Developing a Bush Fire Emergency Management and Evacuation Plan*; and,
- NSW RFS Schools Program Guide and/or Australian Standard *AS 3745:2010 Planning for emergencies in facilities*.

The Bush Fire Emergency Management and Evacuation Plan should include planning for the early relocation of occupants.

Note: A copy of the Bush Fire Emergency Management and Evacuation Plan should be provided to the Local Emergency Management Committee for its information prior to occupation of the development. An Emergency Planning Committee needs to be established to consult with residents (and their families in the case of schools) and staff in developing and implementing an Emergency Procedures Manual. Detailed plans of all emergency assembly areas including on-site and off-site arrangements as stated in *AS 3745:2010* are to be clearly displayed, and an annual emergency evacuation exercise is to be conducted.

For any queries regarding this correspondence, please contact Rohini Belapurkar on 1300 NSW RFS.

Yours sincerely,

Kalpana Varghese
Supervisor Development Assessment & Plan
Built & Natural Environment